

CLAIMS

1. A sample testing device for testing for the presence of a component of interest in a liquid sample, the device comprising:
 - (a) at least one capillary pathway which has an upstream end and a downstream end and which incorporates a reagent system capable of causing agglutination with said component to be detected (the test capillary);
 - (b) preferably, but optionally, at least one capillary pathway having an upstream end and a downstream end (the control capillary);
 - (c) a sampling region to which the liquid sample is applied and from which the sample is able to enter the upstream ends of the test capillary(s) and if present the control capillary(s);
 - (d) a power source;
 - (e) detection arrangements electrically associated with said power source for detecting the presence of liquid at a downstream region of said testing capillary(s) and if present the control capillary(s);
 - (f) display means operated by said power source for indicating the result of the test; and
 - (g) signal processing means associated with the power source, detection arrangement and display means for evaluating the result of the test and providing said result on the display means.
2. A device as claimed in claim 1, wherein the power source comprises electrodes of dissimilar metals provided at the sampling region of the device, said electrodes being adapted to generate a current when liquid sample is applied to said region.

3. A device as claimed in claim 2, wherein the electrodes of the dissimilar metals alternate with each other.
4. A device as claimed in anyone of claims 1 to 3, wherein the signal processing means incorporates a timing arrangement which is initiated by the liquid sample to the sampling region and wherein detection for the presence of liquid at the downstream regions of the testing pathway and control pathway (if present) is effected within a predetermined time as governed by the timing arrangement.
5. A device as claimed in anyone of claims 1 to 4, wherein the reagent binding system comprises beads on which is immobilised a binding partner for said component.
6. A device as claimed in claim 5, wherein the binding partner is an antibody.
7. A device as claimed in anyone of claims 1 to 6, wherein the agglutination reagent system comprises a binding partner for said component immobilised on the walls of the testing capillary pathway.
8. A device as claimed in claim 7, wherein the binding partner immobilised on the wall of the testing capillary pathway is an antibody.
9. A device as claimed in anyone of claims 1 to 8, wherein the agglutination reagent system is capable of causing agglutination in the presence of hCG.
10. A device as claimed in anyone of claims 1 to 9, wherein the or each testing capillary pathway is formed by a co-operating plate and lid arrangement, said plate being formed with channels which become capillary pathways on location of the lid.

11. A device as claimed in claim 10, wherein downstream regions of the or each capillary pathways have apertures and the or each detection arrangement is provided beneath a said aperture.
12. A device as claimed in any one of claims 1 to 11 wherein the or each capillary pathway is a capillary tube.
13. A device as claimed in any one of claims 1 to 9 wherein the or each capillary pathway is formed in a chromatographic or other membrane.
14. A device as claimed in any one of claims 1 to 9 wherein the or each capillary pathway is formed of porous or fibre material.
15. A device as claimed in any one of claims 1 to 14, wherein the or each detection arrangement comprises a pair of electrodes across which a potential difference may be applied.
16. A device as claimed in any one of claims 1 to 15 wherein the test capillary incorporates a particulate material to enhance the change in flow rate.
17. A device as claimed in claim 16 wherein said material is an inert particulate material.
18. A device as claimed in claim 17 wherein said inert particulate material is silica or bentonite.
19. A device as claimed in claim 16 wherein said material is a swellable polymer.